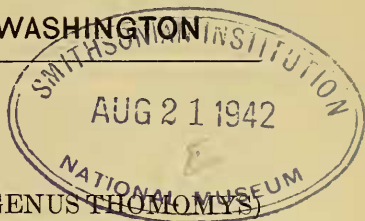


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THREE NEW POCKET GOPHERS (GENUS *THOMOMYS*)
FROM WESTERN WASHINGTON.

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Preliminary to a report on the immigrational history, variation and relationships of the pocket gophers of the State of Washington, it is desirable to provide names and diagnoses for three new subspecies of *Thomomys talpoides* from the Puget Sound area.

The first subspecies of pocket gopher to be made known from the Puget Sound area was *Thomomys douglasi* [sic] *yelmensis*, described by Merriam in 1899. In 1919 Taylor described *Thomomys douglasii tacomensis*, and pointed out that the isolated populations of pocket gophers around Puget Sound differed from one another. Taylor considered the subspecies *douglasii*, which occurs along the Columbia River, to represent one of these variants. Our studies indicate that *douglasii* originated through about the same process as the kinds of gophers around Puget Sound, but from another stock and in a different area. In 1939, Goldman named a third race, *Thomomys talpoides couchi*, from the Puget Sound area.

These three kinds, subspecies of the wide ranging *Thomomys talpoides*, plus the three here newly named, make a total of six races for the Puget Sound area. The presence of so many subspecies of mammals in such a small area deserves an explanation.

Pocket gophers, early in Recent (Post-Vashon) times, seem to have migrated westward from Mount Rainier along the outwash trains of certain valley glaciers. These outwash trains connected with the extensive outwash aprons of the Puget Lobe of the Continental Vashon Glacier. Pocket gophers presumably multiplied, spread and occupied the entire area of outwash apron. The growth and spread of forests split this area into numerous isolated, grassy prairies. Upon nine of these prairies, gophers still exist. Probably the gophers had a continuous range on the area of outwash apron and we deduce: (1) this range was separated first by the Nisqually River into a northern and a southern part; (2) the

spread of forest in the Chehalis River Valley soon divided the southern part into eastern and western sections; (3) similarly, growth and spread of forest on a ridge of terminal moraine again divided the eastern section of the southern part into central and southernmost parts; (4) a little later, the area north of the Nisqually River was separated into eastern and western parts by invasion of forest. Continued invasion of the outwash prairies by forest has reduced the range suitable for pocket gophers. Largely as a result of this reduction, only nine isolated populations of pocket gophers, so far as known, remain in the Puget Sound area.

Gophers from two localities east of the Southern part of Puget Sound are referable to *couchi*, known to us from 48 specimens. Gophers from the western prairies of the area north of the Nisqually River are referable to *tacomensis*, of which we have 41 specimens. Gophers from the Southernmost area, of which we have 146 specimens from three localities, are referable to *yelmensis*. Gophers from two localities of the central area, and those from the eastern part of the northern area, differ from each other and from other named forms so markedly as to merit separate subspecific designation. The three may be named and described as follows:

***Thomomys talpoides tumuli*, new subspecies.**

Type.—Adult male, skin and skull, number 272034, U. S. National Museum (Biological Surveys Collection), collected 7 miles north of Tenino, Thurston County, Washington, by W. W. Dalquest, January 2, 1942; original number 2781.

Range.—Known only from Rocky Prairie, of about one square mile in extent, 7 miles north of Tenino, Thurston County, Washington.

Diagnosis.—Size large; color blackish brown with dusky areas on the neck, laterally, posterior to the postauricular patches; skull large, relatively long and narrow; zygomatic arches angular and moderately heavy.

Comparison.—Compared with *T. t. tacomensis*, *tumuli* is much duller—blackish brown rather than rich hazel in color. The underparts of *tumuli* are grayish buff in color, while those of *tacomensis* are pale orange. The blackish color and dusky neck patches distinguish *tumuli* from *yelmensis*. The small, red *couchi* could scarcely be confused with any other race of gophers occurring in the Puget Sound area (see table 1).

Specimens examined.—Total number 36, all from the type locality.

***Thomomys talpoides pugetensis*, new subspecies.**

Type.—Adult male, skin and skull, number 272032, U. S. National Museum (Biological Surveys Collection), collected 4 miles south of Olympia, Thurston County, Washington, by W. W. Dalquest, December 31, 1941; original number 2022.

Range.—Known only from prairies three to four miles south of Olympia, in Thurston County, Washington.

Diagnosis.—Size large; color much like that of *tumuli* but less grayish; dusky neck-patches present; tail and hind foot short; rostrum long.

Comparison.—This race is much like *tumuli*, from which it differs as follows: color yellower, less gray; skull shorter, relatively wider; rostrum longer; nasals wider; weight less (see table 1).

Specimens examined.—Total number 54, all from the type locality.

***Thomomys talpoides glacialis*, new subspecies.**

Type.—Adult male, skin and skull, number 272033, U. S. National Museum (Biological Surveys Collection), collected two miles south of Roy, Pierce County, Washington, by W. W. Dalquest, December 19, 1941; original number 2672.

Range.—Known only from the prairie, south of Roy, Pierce County, Washington. This prairie is about one square mile in area.

Diagnosis.—Size large; color of upper parts yellowish brown; underparts buffy tinged with ochraceous; skull large, wide and heavy; zygomatic arches flaring and angular; jugal especially heavy.

Comparisons.—In color of upper parts, *glacialis* is paler and more yellowish than *tacomensis*, *tumuli*, and *pugetensis*, and is slightly more brown than *yelmensis*. The underparts of *glacialis* are distinctly more ochraceous than those of *yelmensis*. The especially wide and flaring zygomatic arches are unlike those of any other race of gophers from the Puget Sound area (see table 1).

Specimens examined.—Total number 50, all from the type locality.

TABLE 1. AVERAGE MEASUREMENTS (MILLIMETERS) OF ADULT, MALE *Thomomys talpoides* FROM THE PUGET SOUND AREA.

Subspecies	Number of animals	Total length	Length of tail	Length of hind foot	Weight in grams	Condyl- obasal length	Length of rostrum	Zygo- matic breadth	Inter- orbital breadth	Width of rostrum	Width of nasals	
<i>glacialis</i> . . .	20	225	71.8	30.7	128	37.9	17.7	23.0	6.6	8.1	4.3	
<i>tacomensis</i> . .	13	224	70.5	30.9	127	37.5	17.0	21.9	6.5	8.1	4.5	
<i>pugentensis</i> . .	14	223	61.5	29.7	123	37.0	17.9	22.4	6.6	7.8	4.2	
<i>tumuli</i>	11	225	67.9	31.1	140	37.7	17.1	22.0	6.4	7.9	4.5	
<i>yelmensis</i> :												
Vail	12	216	61.7	30.4	126	36.2	17.6	21.3	6.8	8.0	4.2	
Tenino	21	213	63.9	28.9	121	36.8	17.6	21.7	6.5	7.7	4.3	
Rochester . .	16	215	63.2	30.1	117	36.3	17.6	21.1	6.9	7.7	4.1	
<i>couchi</i>	13	196	54.9	27.2	87	34.5	16.4	20.3	6.2	7.3	4.0	